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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,737

07/21/2006

Ikuya Miyamoto

1830.1024

1658

7590 03/25/2009  
Staas & Halsey  
1201 New York Avenue, N.W., 7th Floor  
Washington, DC 20005

EXAMINER

PEPITONE, MICHAEL F

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

03/25/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,737	<b>Applicant(s)</b> MIYAMOTO ET AL.	
	<b>Examiner</b> MICHAEL PEPITONE	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 1796

## **DETAILED ACTION**

### ***Terminal Disclaimer***

The terminal disclaimer filed on 12/24/08 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 11/662,197 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enokida *et al.* (JP-2003261695) in view of Takahashi *et al.* (US 6,238,793). For the purpose of examination, the machine translation of Enokida *et al.* (JP-2003261695) was used.

Art Unit: 1796

Regarding claims 1-3: Enokida *et al.* teaches a composite material (§ 6) comprising a sheet silicate organically modified with an onium salt (§ 14-17), specifically dihydroxyethyl methyl ocatadecyl ammonium salt [instant claims 2-3] (§ 16), in an amount of 0.1 to 1 wt% (§ 8); and polyethylene glycol dispersibility improvers {non-ionic surfactants} (§ 19) in an amount of .001 to 1 wt% (§ 20).

Enokida *et al.* does not teach polyoxyethylene alkyl ether surfactants. However, Takahashi *et al.* teaches a thermoplastic composites comprising lamellar silicates (1:10-24) and non-ionic surfactants {polyethyleneglycol oleyl ether, degree of polymerization  $n=2\sim50$ ; alkyl group =  $C_{18}$ ; polyethyleneglycol lauryl ether, degree of polymerization  $n=2\sim50$ ; alkyl group =  $C_{12}$ } (3:55-65). Enokida *et al.* and Takahashi *et al.* are analogous art because they are concerned with a similar technical difficulty, namely the preparation thermoplastic composites comprising silicates and non-ionic surfactants. At the time of invention a person of ordinary skill in the art would have found it obvious to have combined polyethyleneglycol alkyl ethers {degree of polymerization  $n=2\sim50$ ; alkyl group =  $C_{12}-C_{18}$ }, as taught by Takahashi *et al.* in the invention of Enokida *et al.*, and would have been motivated to do so since Takahashi *et al.* suggests that such non-ionic surfactants do not require dispersion/dissolution in media such as water (eliminating a separate process step for water removal) (3:42-51).

Regarding claims 5 and 7: Enokida *et al.* teaches a polylactic acid [instant claims 5-6] (§ 7-8) biaxially oriented {stretched} film [instant claim 7] (§ 6, 43-44).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1796

Enokida *et al.* (JP '695) was relied on for a composite material (§ 6) comprising a sheet silicate organically modified with an onium salt (§ 14-17), specifically dihydroxyethyl methyl ocatadecyl ammonium salts [instant claims 2-3] (§ 16), in an amount of 0.1 to 1 wt% (§ 8); and polyethylene glycol dispersibility improvers {non-ionic surfactants} (§ 19) in an amount of .001 to 1 wt% (§ 20).

Takahashi *et al.* (US '793) was relied on for a thermoplastic composites comprising lamellar silicates (1:10-24) and non-ionic surfactants {polyethyleneglycol oleyl ether, degree of polymerization  $n=2\sim50$ ; alkyl group =  $C_{18}$ ; polyethyleneglycol lauryl ether, degree of polymerization  $n=2\sim50$ ; alkyl group =  $C_{12}$ } (3:55-65).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1796

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PEPITONE whose telephone number is (571)270-3299. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MFP  
20-March-09

/Harold Y Pyon/  
Supervisory Patent Examiner, Art Unit  
1796